

ABSTRACT

An Fe-Cr-Si based non-oriented electrical steel sheet contains 2.5% to 10% by mass of Si, 1.5% to 20% by mass of Cr, 0.006% by mass or less of C, 0.002% by mass or less of N, 0.005% by mass or less of S, 0.005% by mass or less of Ti, 0.005% by mass or less of Nb, and as necessary, 0.1% to 2% by mass of Al and at least one of 0.005% to 1% by mass of Sb and 0.005% to 1% by mass of Sn, and the balance being Fe and incidental impurities, wherein the electrical resistivity of the steel is 60 $\mu\Omega\text{cm}$ or more, and the number of nitrides containing chromium per mm^2 in the interior of the steel sheet is 2,500 or less. Consequently, the problem that high electrical resistance resulting from the high Si content and high Cr content is not satisfactorily utilized is advantageously solved, and it is possible to provide a non-oriented electrical steel sheet having excellent magnetic properties in the high-frequency range, in particular, in a frequency range of 1 kHz or more.